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Californian and Other West American Bulbs and Plants CARL PURDY Fall 1932 — Spring 1933 UKIAH, CALIFORNIA, U. S. A.

Terms, Cash With Order

Safe Carriage Guaranteed I guarantee that all bulbs shall reach my customers safely, and that they shall be of good quality. If bulbs are lost in transit, or are not good, I will either replace them or refund the money, at my option.

Claims for Damage Claims for damage must be made immediately on receipt of the bulbs or plants.

Quality of Bulbs My bulbs are of superior quality, and it is my aim to sell only the best.

Date of Shipment All California bulbs should be planted either in fall or early winter if the best results are desired. Very few can be kept in good condition later than January 1. I will not fill orders for Erythroniums later than December 1, and after January 1, I can supply only Lilies.

Expressage, Postage or Freight Free In every instance I deliver all goods free of carriage charges within the United States. Under the postal regulations, I can ship 11 pounds by post to Great Britain, Germany, Holland and some other countries. I can pack any order in parcels within these weights, and will, in every case, prepay postage and guarantee safe delivery. The post is both cheaper and more rapid for foreign shipments.

Prices

Quotations are for one and per dozen. Six will be sent at dozen rates.

If Varieties Are All Sold Unless forbidden in your order, I reserve the right to send you equally good sorts and better value than you asked for, when a stock is exhausted.

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GARDEN CINDERELLAS

How to Grow Lilies in the Garden

By Helen M. Fox

Foreword by E. H. Wilson, keeper of the Arnold Arboretum



Here at last is a book that I can heartily recommend in every respect. No one interested in Lilies, either professional or amateur, can afford to be without it, and it is such good reading that it should be on the shelf of every flower lover.

The descriptions are complete and accurate to the last detail, yet so simple that they can be easily followed by the novice.

The cultural directions, propagation methods, and general notes are the result of years of personal experience of the author in growing Lilies in her own garden and from collaboration with recognized authorities.

269 pages, 4 color plates, 29 halftones, 18 line drawings, 6 x 8 3/4; cloth binding.

I will send this book postpaid anywhere in the United States for \$5.

CYCLOPEDIA OF HORTICULTURE

By L. H. BAILEY

A vast work covering most thoroughly every phase of horticulture. Lists practically all plant life known in America, with full information as to culture, hardiness, etc. This is the first book anyone interested in plants should buy. New edition in three volumes. \$25 the set, postpaid.

TO THOSE WHO WOULD VISIT MY GARDENS

My gardens are nine miles from Ukiah, part of the distance over a steep mountain grade, but a road that will give no concern to anyone used to mountain roads. Visitors are always welcome, but it is requested that you telephone before leaving Ukiah, so that someone will be on hand to attend you.

HOW TO GROW WILD FLOWERS

Nature gives the lesson, but one must be sure that he reads Nature's lessons aright. Naturally all of these seeds germinate on this Coast with the first fair fall rains. They make a winter growth slowly, develop and flower in the spring and die down in summer, although with a little more moisture, some, as for instance, Godetias, will flower well through the summer.

The Eschscholtzia is a strong perennial treated as an annual.

If one stopped here one would think that the only thing necessary would be to sow in the fall and let them go.

But there is now an element to be met that is not in Nature. Since the white occupation a large number of weeds and coarse grasses have come in and the native flowers cannot stand their competition. A Godetia, for instance, has little show in a dense growth of Alfilleria, or burr Clover or Broncho Grass, all of which are foreigners. The Godetia would be be completely choked out.

To meet this unnatural condition it is necessary either to wet the ground enough in early fall to germinate the seeds of all weeds and grasses and then

to plow, spade or even break the surface lightly with hoe or mattock enough to kill the young seedlings.

Then mix the wild flower seeds thoroughly in a considerable quantity of fine dirt or sand so as to be able to sow widely and evenly. Do not sow each sort by itself, but mix sorts flowering in succession. See season numbers before each sort.

For instance, a mixture of Nemophila, Gilia, Clarkia, Godetia and Bartonia would give a succession from first to last of the season. Nemophila, Gilia, Eschscholtzia and Lupine would make another combination, and so on.

The seed once sown needs no care. It will grow well and flower in season and resow itself most liberally. Indeed, too liberally. Flowers do not do as well crowded.

Also, seeds of the weeds and coarse grasses will come in again, and the very best effects are to be had by breaking and resowing every fall. If it is not done there will be many wild flowers for years, but gradually the coarse growth will choke them out. There is far more danger of having them too thick than too thin. Eight inches apart is an abundance. If too thick, a rake can be run through to kill many and still leave an abundance.

Summer fallowing of the area is a fine preparation. One can have acres of wild flowers with scarcely any trouble.

SEEDS OF WILD FLOWERS

In California there are an immense number of wild flowers, both annual and perennial. The latter are not well suited for naturalizing as they very seldom bloom the first year.

Very many of these lovely flowers do not take so kindly to culture as to insure success in any way. I think that if a census were taken of the opinions of those who had sowed many sorts they would say that by far the larger number produced nothing, but if one will study Nature this is not necessarily true. I think it best to offer a small list of species almost certain to thrive and flower. Luckily, too, it numbers most of those which make the great mass flowering here.

For open places, in sun or light shade, Clarkias, Collinsia, Eucharidiums, Godetias, Nemophilas.

For sun, fair soils, and moderate spring moisture, same with Bartonia aurea, Eschscholtzias, Gilias, Linum Lewisii, Calandrina speciosa.

For very hot sandy or gravelly places, Bartonia aurea, Mentzelias, Abronias, Argemones.

There are several well-known garden flowers which do admirably under the same treatment, and I offer seeds as follows:

SHIRLEY Poppies. Finest mixed. Oz., 50 cts.

ARGEMONE Platyceras, 2-3 feet, hispid, with large white poppy-like flowers. Oz., \$1.

BARTONIA Aurea has sticky leaves and cup-shaped flowers of delicious yellow filled with golden stamens. Oz., \$1.

CALANDRINA Speciosa is a trailer like Portulaca, with showy red flowers. Oz., 75 cts.

CLARKIAS are among California's finest annuals.

Elegans, soft rose. Oz., 40 cts.

Pulchella, rose red. Oz., 40 cts.

COLLINSIA bicolor has racemes of many handsome rose and white flowers. Oz., $50 \, \mathrm{cts.}$

Grandiflora, dwarf blue. Pkt., 15 cts.

ESCHSCHOLTZIA Californica is the rich reddish orange sort. Oz., 50 cts. Caespitosa, dwarf early golden yellow. Desirable in flower border. Pkt., 15 cts. Maritimum, yellow at outer edge, pale at center. Oz., 50 cts. Tenuifolium, pale yellow dwarf. Pkt., 15 cts.

GILIA Achillaefolia, 8-12 inches, bright lavender-blue flowers in small heads. Oz., 30 cts.

Capitata, heads of light blue flowers; branching habit. Oz., 30 cts.

Tricolor, low plants, with charming flowers, like *Phlox Drummondii*, in three colors. Oz., 50 cts.

Liniflora, white, very graceful. Oz., 50 cts.

GODETIA Amoena, 12-15 inches, branching, large bell-shaped flowers of soft rose. Oz., 50 cts.

IBERIS Gibraltarica, a most charming perennial with lavender flowers. Pkt., 25 cts.

LINUM LEWISH, a lovely blue Flax. Oz., 60 cts.

LAYIA Elegans, 6 inches, with dainty yellow daisies like tiny Coreopsis. Pkt., 15 cts.

NEMOPHILA Insignis, blue; a most charming low bedding plant. Oz., 50 cts. Maculata, white with vivid purple spots. Oz., 40 cts.

Atomaria, very dark blue and most lovely.

NIGELLA Miss Jekyll, blue flower surrounded by a filmy mass of greenish sepals. Pkt., 15 cts.

PHACELIA Congesta, branching plants, 12 inches high, with many close heads of blue bells. Pkt., 15 cts.

Campanulata, same, but loose heads of deep blue. Pkt., 15 cts.

Packets 10 cts. each unless otherwise stated.

HARDINESS IN THE EAST AND FAR NORTH

Brodiaeas are unquestionably hardy throughout above regions.

Camassias are not only perfectly hardy, but of very easy culture at all points. Once planted they continue fine for years.

Calochortus. Section 1 and Section 2 are all perfectly hardy as is attested by many letters from widely separated points. They are especially good in rock gardens and at Poughkeepsie flowered year after year.

From New Brunswick: "I never saw anything like Calochortus amabilis to bloom." From Ithaca, N. Y.: "Amabilis does well in this climate." From Ohio: "Amabilis bloomed for six weeks and is most satisfactory." From Detroit: "Albus has been fine for years." From Bronxville, N. Y.: "Lilacinus does well here."

Of section 3, the Mariposa Tulips, too much cannot be said. The hardiest are Venustus oculatus, Citrinus, Vesta and Eurycarpus.

Some have had excellent success with Mariposa Tulips while some have failed. In the cold frame they are easy, and with a leaf covering there is very good chance to succeed.

An article in *Horticulture* (Boston) of August 1st, from a lady in Connecticut, tells of almost perfect success with all of these groups this year and with no particular care and no protection.

Fritillarias are perfectly hardy and have done well in Wisconsin.

Erythroniums are perfectly hardy anywhere, and nearly every one has been able to flower and to establish them well. Some have had remarkable success and from such distant points as Washington, D. C., Montreal, Minneapolis, and Ohio.

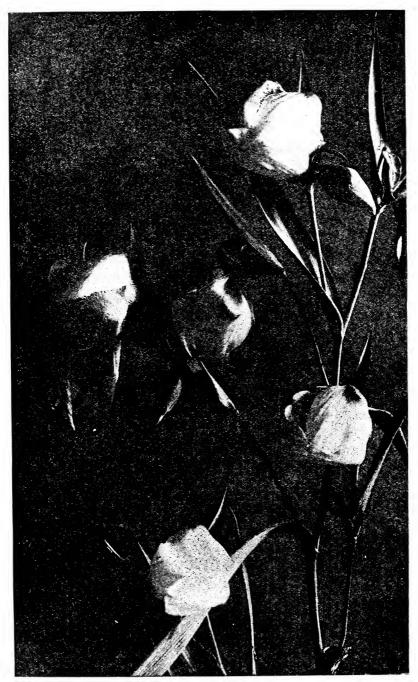
They are a great acquisition to Eastern gardens.

Western Lilies are all hardy anywhere in the East. Some are quite easy to grow, others need much care in planting, and failures are not due to coldness of the climate but failure to suit that particular lily, and that can be said as to lilies from any place in the world.

Lewisias are perfectly hardy. But a gritty soil and perfect drainage cannot be too much emphasized in giving their cultural requirements.

Western Lady Slippers are perfectly hardy, but all Lady Slippers are particular as to their soils.

Western Trilliums are absolutely hardy and will succeed where Eastern species will.



Calochortus Albus, The Pearl. See page 8.

CALIFORNIAN BULBS

ALLIUM

ALLIUMS are very attractive little bulbous plants, somewhat resembling the Brodiaea, but with a closer head of flowers. Perfectly hardy, easily grown, and well adapted to rock gardens or to plant with other small bulbs. Thrive in almost any soil in sunny situations. Cover bulbs two inches.

Eastern Lake Co. Sp. I cannot identify, but it is one of the prettiest. 4 to 6 inches high, with pink flowers, tinted lavender. 6 cts. each; 60 cts. per doz.

Falcifolium, is 3 inches high, with large umbel of rosy-purple flowers. 6 cts. each; 60 cts. per doz.

Unifolium is 6 to 10 inches high, with a handsome umbel of rosy-pink flowers.

6 cts. each; 60 cts. per doz.

Vallidum. Unlike the others, this must have moist situation. One of the most beautiful and ranks with the best of bulbous flowers. Abundant grassy foliage. Stems a foot to two feet high, with showy rose-colored flowers. Makes a large clump in time. Each 30 cts.; \$3 per doz.

BRODLÆAS

See color plate on back cover for the beauty of these flowers and half-tones

on pages 6 and 26, for their graceful habit.

These plants have a small bulb producing grassy leaves near the ground, and very slender, but stiff, naked stems bearing a head of waxy flowers of great lasting quality. All are pretty. They grow exactly like Calochorti, and their culture is the same and just as easy as for that flower. In California they are easily naturalized in almost any soil. Plant them about 2 inches deep, with a trowel or dibble, and leave them alone. They are especially happy under oak or other deciduous trees, in crevices in rocks, or in rough, gritty soils. Brodiaeas can be shipped from September to January 1.

Reports from many Eastern points indicate that Brodiaeas are perfectly hardy. Mr. Stephen Hamblin of Harvard Botanic Gardens lists Capitata, Lactea, and Laxa as being absolutely hardy and long-lived. As these do not differ in habits from a number of others, I would extend his remark to include all.

Bridgesii has habit No. 2 in halftone, page 6, and is like B. Laxa, but with flowers widely spreading and a very fine reddish-violet color. Makes a large

umbel, at its best with as many as 50 flowers. Each 6 cts.; 60 cts. per doz.

Californica is one of the two commonly called Harvest Brodiaea. It is the largest and tallest of all Brodiaeas. From 1 to 2 feet high, with stout stems crowned with an umbel of 8 to 12 flowers. The color is lavender-rose and, like B. grandiflora, the flowers are very lasting. None to sell this year.

Californica Deep Blue. Like the above, but flowers are deep blue. Each 5 cts.;

50 cts. per doz.

Candida. Rather like B. Laxa, No. 3 in halftone, with very fine, delicate lilac flowers, each pedicel bent to make the flowers face one way. 60 cts. each; 60 cts per doz.

Capitata is called California Hyacinth and has slender stems 6 to 12 inches high, capped with a close cluster of violet-blue flowers. See color plate. 4 cts.

each; 40 cts. per doz.

Coccinea or Floral Firecracker. The picture on page 26 shows the habit and the color plate on cover gives its wonderfully vivid coloring. The slender stems rise a foot to two feet high and a group mingled with ferns or like foliage plants is most effective. They prefer a loose, gritty soil. Fine bulbs, 7 cts. each; 70 cts. per doz. Extra large bulbs, 10 cts. each; \$1 per doz.

Crocea has habit of No. 1 in halftone, grows 6 to 9 inches high and the clear yellow flowers are very pretty. 5 cts. each; 50 cts. per doz.

Douglassii has slender stem and close umbel with handsome porcelain-blue flowers. Very large bulbs, 6 cts. each; 60 cts. per doz.

Eastwoodii has umbels like B. laxa, with like flowers of pure white. In the wild found in gravelly stream beds where it is wet until after flowering. 6 cts. each; 60 cts. per doz.

Grandiflora, another Harvest Brodiaea, has an umbel of a few large, glossy, purple flowers of much beauty and great lasting qualities. Naturalizes easily in any clay soil, especally if moist. 5 cts. each; 50 cts. per doz.

Hendersonii has habit of No. 1 in halftone, page 6, with stems 8 to 12 inches high and yellow flowers, conspicuously banded purple. 7 cts. each; 70 cts. per doz.

lxioides splendens is popularly known as Golden Star. See cut, page 6. Very handsome often with very many flowers. The finest yellow Brodiaea. 5 cts. each; 50 cts. per doz.

Lactea has an umbel rather like No. 1 in halftone, but closer. The flowers are cupped and milky white with green mid-vein. Forces easily and most lasting. 5 cts. each; 50 cts. per doz.

Laxa. See No. 2 in halftone, page 6, also colored plate, back cover. 1 to 2 feet high, with very many fine blue flowers. One of California's finest blue flowers. 6 cts. each; 60 cts. per doz.

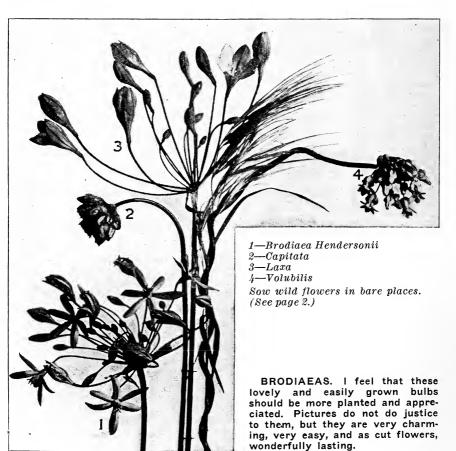
Laxa, "Blue King", has deep, almost indigo blue flowers. 7 cts. each; 70 cts. per doz.

Purdyii is low growing, say 6 inches high. The umbel is more open than No. 1 in halftone. The color is reddish lilac and the flower is broadly spreading with tips of petals recurved. Very pretty. 6 cts. each; 60 cts. per doz.

Volubilis, the Twining Hyacinth, is most interesting of all. The flowering stem begins to climb at once, see No. 4 in halftone, and may grow up on other plants or bushes to 3 or 4 feet. Flowers are pink and very lasting. See colored plate, back cover. 10 cts. each; \$1 per doz.

Mixed Brodiaeas, 40 cts. per doz.; \$3 per 100.

Brodiaea Collection. 100 bulbs, 5 varieties, my selection, \$3.50; 50 bulbs, \$2. The culture of Brodiaeas in the East is as for *Calochortus*, and they are about as hardy. They all do well in pots. Brodiaeas are fine cut flowers and wonderfully lasting.





Camassia Leichtlinii

From a Cleveland, Ohio, Amateur: "The Camassias made a sturdy growth, more than 41/2 feet in height, covered with bloom and lasting longer than almost any plant (bulbous) that I know of, I made the mistake of planting them solitary. In future will make large groups."

CAMASSIAS

Whether on the Pacific Coast, in the East, or in Europe, there are few bulbous plants which meet climatic or soil conditions better, or give a more attractive bloom. They are hardy without protection, and thrive under ordinary garden conditions or when naturalized in open moist woods, or on the sides of ponds or streams, or in not too dense a grassy growth. In the West they thrive where they are submerged all winter. All Eastern and European customers praise them highly. It is better to plant them not over 4 inches apart in masses of from twelve to hundreds. Plant from October to January in any fair soil, and 3 to 4 inches deep. Water liberally when growing and in flower, but it does not matter whether they are dried off afterward or not. The foliage is excellent. Not necessary to lift when done flowering. They can be left alone for years.

Leichtlinii may grow to 4 feet in height and have as many as a hundred flowers. The petals are even and form a perfect star-shaped flower as much as an inch and a half across. The flowers appear in long succession. Reports from delighted customers everywhere justify us in most thoroughly recommending all Camassias for common garden culture. There are two fine colors.

Leichtlinii Blue. The colors in those I now have range from lavender blue to aconite-blue. Very fine bulbs, 8 cts. each; 80 cts. per doz.; \$6 per 100. Immense bulbs for show effects, 12 cts. each; \$1.10 per doz.; \$9 per 100.

Leichtlinii Cream to White. Very fine bulbs, 12 cts. each; \$1.10 per doz.; \$9

per 100.

Note: The white form flowers 2 to 3 weeks later than the blue.

Quamash is the right name for the species I have long listed as Esculenta. Esculenta is a plant of the Mississippi Valley. Quamash is a purple form. Rich in color, and grows as high as 2 feet in the best soils. Showy in masses. A wonderful value at my prices: 5 cts. each; 50 cts. per doz.; \$3 per 100. Flowering bulbs to naturalize, \$15 per 1000, not delivered.

Camassias are ready from September to January 1. Best planted in late

September and early October.

ZYGADENUS Fremontii, called False Camass, is related to the Camassias, with the same attractive basal leaves; with stout erect stems bearing a raceme of many yellow flowers an inch across and of real beauty. Hardy anywheres. It is very early fowering, and like the Camassias, adapts itself to any sunny spot with loamy soil. 10 cts. each; \$1 per doz.



Calochortus Maweanus (white), dainty and beautiful, 4 to 10 inches high; Benthamii, yellow; Lilacinus, lilac; Purdyi, white and much larger than others. Dainty plant for shaded nooks or rockwork in little colonies.

CALOCHORTUS

These are lovely bulbous plants, which are best described under the separate groups. See page 3 as to hardiness in the East.

Section I. GLOBE TULIPS

Words convey only a faint idea of these flowers. Their form is similar, but there is a great difference in color. All are exquisite in tints and the perfection of grace in form. The plants are rather tall and slender, with leaf-wrapped stems of odd shape. They are natives of woodlands, delighting in loose soil and liking leaf-mold and light shades. At the same time, most of them will do well in heavy soils, and are fine subjects to naturalize among rocks or in shaded woods. In the East, as well as the West, they succeed very well if given the care suggested in cultural directions.

Albus, Fairy Lantern, is well represented by the halftone on page 4, but the flower is longer, opening a little at the tip and pure white. I had thousands flowering here this spring, each with many branched stems bearing large numbers of flowers. Each 5 cts; 50 cts. per doz.; \$3.50 per 100.

Albus, The Pearl, is beautifully illustrated on page 4. The well rounded flower is pearly-white with brownish tints. 7 cts. each; 70 cts. per doz.

Albus, Pink Pearl. This is a variety of *The Pearl*, having lovely pink and rose tinting. 10 cts. each; \$1 per doz.

Amabilis, up to 15 in. high and rich yellow. See color plate, page 13. 5 cts. each; 50 cts. per doz.; \$3.50 per 100.

Amoenus. Eight inches high, stems slender and reclining, like Albus, but a soft rose-pink. Simply exquisite. 9 cts. each; 90 cts. per doz.

Amoenus Major. I discovered this year (1932) a giant form of this lovely species with upright, many branched stems and many plants 24 inches high. The flowers have all of the delicate beauty of the type form. Rose-pink. Each 10 cts.; \$1 per doz.

Section II. STAR TULIPS; CAT'S-EARS

Slender woodland plants well shown in picture, page 8. Fine for naturalization in rock work and woodland. Culture: See page 11.

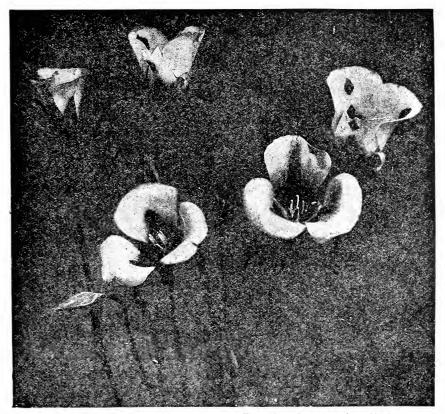
Benthamii. Halftone on page 8 shows the habit; 3 to 8 inches high, with bright yellow flowers, often marked black at base. 5 cts. each; 50 cts. per doz.; \$3.50 per 100.

Maweanus Major. See halftone, page 8. Larger than last and white with soft lavender hairs, thick on inner surface. 5 cts. each; 50 cts. per doz.; \$3.50 per 100.

Maweanus Roseus. More slender and a soft lilac-pink. Same price.

Maweanus Purpurascens is like Major, but very deep, almost purple in color. 7 cts. each; 70 cts. per doz.

Lilacinus is not a woodland plant, but grows in meadows which are wet in winter and very moist until after the flowering season. The plant grows to 8 inches with many very fine lilac flowers which open full, and fragrant and handsome. Of easy culture either here or in the East and quite hardy. Any garden soil, preferably a sandy loam. 5 cts. each; 50 cts. per doz.; \$3.50 per 100.



Mariposa Tulips of the El Dorado strain. (For color picture of these Mariposa Tulips, see page 13.)

Section III. TRUE MARIPOSA, or BUTTERFLY TULIPS

Until one has seen a good collection of these plants, he has no idea how much Nature can do in the variation of one flower. All Mariposas are simply forms of *Calochortus venustus*, yet there are six well-marked strains, all with the slender grace of stem belonging to the species.

(TRUE MARIPOSA TULIPS—Continued)

Cup-shaped flowers, one to many on a stem, wonderfully marked with eyes and dots and pencilings in rich colors, are characteristics. Yet each strain carries out the plan on a color scheme of its own, and then can be compared only with the orchids in wonderful variability of beauty.

"Mariposa" is simply the Spansh word for butterfly, and is applied to these Tulips because the eyes and markings of the flowers are so much like those on a butterfly's wings. It is a musical word given to a county and to a town in California, and we would hardly like to give it up for its English equivalent.

Venustus Citrinus. A most satisfactory hardy species with deep rich yellow flowers with a black eye. Most excellent. 6 cts. each; 60 cts. per doz.; \$4 per 100.

Venustus El Dorado. The plants of this strain grow from 1 to 2 feet high and branch. The flowers are simply marvelous in their variety of colors and markings. Scarcely two are alike; in a mixed lot they may vary through white, lilac to purple and again through shades of pink to deep claret-red. No plant subjected to the hybridizer's art shows wider or more beautiful variations. In any mixture whites, more or less eyed, predominate. There is no better investment for the flower-lover than a quantity of these bulbs. They thrive best in a rather porous soil, either sandy or gritty, and will grow either in sun or light shade. Flowers are 2 to 4 inches in diameter. Mixed colors at 6 cts. each; 60 cts. per doz.; \$4 per 100.

Venustus Oculatus, like *Citrinus*, but wonderfully varied in whites and creams, more or less tinted purple, and with very rich eyes. I have had the flowers 4 inches across. The plant is a good grower, and the flowers are most satisfactory. 6 cts. each; 60 cts. per doz.; \$4 per 100.

Venustus Purpurascens resembles *Vesta* in habit. This is a superb strain with the fine growing qualities of *Vesta*, and with fine flowers lilac to purple, darker on the outside. 7 cts. each; 75 cts. per doz.

Vesta likes full sun and will grow best in heavy soils. It is a species of my own, found on heavy clay soils, is the best grower of all Calochortus, and will succeed in almost any ordinary soil. It is a most superb thing, with great 3 to 5-inch flowers, borne on long, separate stalks; very numerous. The color is white, fushed with lilac or rosy purple, red at center, and purple on backs of petals. I think this the best of all Calochortus. Reports from European growers put it in the first rank. I have very large bulbs at 10 cts. each, or \$1 per doz.; good bulbs at 7 cts. each, or 60 cts. per doz., and small bulbs to naturalize at \$3 per 100.

MARIPOSA TULIPS IN MIXTURE. A mixture of fine Mariposa Tulips for 50 cts. per doz. and \$3.50 per 100.

MARIPOSA TULIP COLLECTONS. I put up a collection of four species, 25 bulbs each, 100 in all, named, for \$4, and will supply a half collection for \$2.25.

CALOCHORTUS. All sorts. Mixed. 40 cts. per doz.; \$3 for 100.

OTHER MARIPOSA TULIPS

There are on the Pacific Coast of North America, from British Columbia to far down in Old Mexico, a wonderful series of other Mariposa Tulips. They must be seen in order to realize the superb variations. At this time I can offer only the following fine species:

Catalinae is a Mariposa Tulip from the coast of California, from Ventura south to Los Angeles. About 12 to 18 inches high, with the flowers a soft lilac and a very dark maroon spot at the inner base. 12 cts. each; \$1.25 per doz.

Clavatus. The largest flowered and the stoutest stemmed of all Mariposa Tulips. The blooms, which are shaped like a bowl, are often over 4 inches across, of a deep yellow, and the lower half covered by stiff yellow hairs. 15 cts. each; \$1.50 per doz.

(MARIPOSA TULIPS—Continued)

Eurocarpus has a single broad basal leaf and a slender stem 6 to 9 inches high, with an umbel of large white or lavender on white ground flowers. In center of each petal there is a large blotch of purple. Very showy and very hardy. 7 cts. each; 70 cts. per doz.

Gunnissonii from Colorado grows to 1 foot with a single basal leaf. From 1 to 4 flowers are borne in an umbel. They are about 2 inches broad, white or shades of pink with many green hairs at center and lovely markings in other colors. It is a native of Colorado in high mountains and has proved hardy near New York City in a three-years' test. 10 cts. each; \$1 per doz.

Greeneii. This is a rare species of the same class as *Nitidus*. An erect cup of large size, soft lilac, yellow at inner base and lined with long silky hairs. Probably very hardy. 15 cts. each; \$1.50 per doz.

Howellii grows about 8 inches high, bearing large white flowers with green hairs on the lower, inner portion; a wonderfully beautiful flower. 15 cts. each; \$1.50 per doz.

Kennedyii, the Desert Mariposa, is found from Mojave Desert in California to the very arid regions of Arizona. In Arizona it is a rich yellow, while in California it is the most dazzling vermilion. I doubt if there is a more vividly colored flower in the world than the latter. I have this vermilion form at 15 cts each; \$1.50 per doz.

Leichtlinii grows in rock masses in the High Sierras and usually not over 6 inches high, with smoky white flowers with vivid spots of almost black. Most splendid for the Rock Garden and hardy anywhere. 7 cts. each; 70 cts. per doz.

Pot Culture. See below.

Macrocarpus is of the sagebrush regions of the Great Basin. The stem is stiff, with exquisite lavender flowers of large size, tinted green on the reverse. 12 cts. each; \$1.25 per doz.

Nitidus (True). This is probably the first offering ever made of this form. A stout species 12 to 18 inches or more high with fine lavender flowers marked with a darker circle near its inner base. It comes from a quite cold region and should therefore be perfectly hardy anywhere. 12 cts. each; \$1.25 per doz.

Nuttallii is a very handsome flower, found from Reno, Nevada, eastward to Nebraska. The Mormons called it the "Sego Lily" and made it the State flower of Utah. It endures very cold weather and has proved quite hardy in Mr. Herbert Durand's garden at Bronxville, N. Y. It grows as high as 17 inches, with as many as six flowers of pure white with markings of gold and maroon. 10 cts. each; \$1 per doz.

Plummerae is a wonderfully beautiful flower of a shade of lavender, with long, silky hairs covering the interior. A large sort with flowers up to 5 inches across. 15 cts. each; \$1.50 per doz.

CULTURE OF CALOCHORTUS IN CALIFORNIA

Let the bed be slightly raised, with the drainage perfect. A rise of 3 inches with a slight slope will assure this.

Soil. No fresh manure must be used, but any loam will do, although sandy loam best meets the needs of the greater number of species. Still, clay loam, gritty soil, or even adobe, if lightened with sand, grit, spent tanbark or leaf mold. will give good results. The most satisfactory results are obtained with a soil that is light and porous, not made too rich with fertilizers, and providing thorough drainage. These requirements can be secured very easily in almost any garden, and the results justify all efforts expended in securing proper conditions. If only a few dozen are grown, it is really better to plant them in a flat box, when 10 inches of soil is ample.

A customer living in the Piedmont region, east of San Francisco Bay, has had great success year after year in a soil patterned after that used in England. Here is the composition: 2 parts any loam, 1 part sand, 1 part the fine road grit, such as is used to dust over the oiled surface of roads for a finish. Mix well, and a depth of 10 inches is ample.

Other customers in the eastern bay region have had excellent success with no preparation of the prevailing loam.

Time to Plant. Plant as soon after October 1 as possible, and not later than January 1.

Depth to Plant. Two to 2½ inches is ample.

(CULTURE OF CALOCHORTUS—Continued)

Distance Apart. They will thrive 2 inches apart each way.

Water. During our winter and early spring the rains are sufficient, but if the late spring is dry, keep the ground barely moist after April 1, and water liberally when the buds show for bloom.

Care of Bulbs After Flowering. If the bed can be left dry all summer, do not dig the bulbs, and they will come up again in the fall. They should not be watered during the summer, and if the bed is where watering is done, it is better to dig the bulbs and store them, without packing material, in paper bags, in any dry, cool place. One advantage of planting in a box is that the box can be put in a dry place and the bulbs left undisturbed. A box 2 x 3 feet will hold 50 to 75 bulbs.

Gophers. These troublesome rodents are very fond of Calochortus bulbs as well as of Tulips. If they cannot be poisoned or trapped, they can be kept out in several other ways. I have found that an underground fence made of 2-inch planks set 2 feet deep with an inch above the surface will keep them out. Another method is to make a fence of wire screening of ¾-inch diamond mesh underground. This can be had 2 or 3 feet wide. Still another good way is to make a large sunken box, with only the top of the sideboards showing above the ground; 10 inches is deep enough. Such a box can have a bottom of wire mesh or roofing tin.

Pot Culture. See below.

IN THE EASTERN UNITED STATES

Calochortus will endure the coldest weather in the Eastern United States, but suffer from premature thawing followed by freezing.

I think that the soil mentioned above, using one-third grit, would be the very

best for the Eastern United States.

(1) In Open Ground. Miss U., living along the Hudson River, has been

successful every year with many varieties. She writes:

"I have again had splendid success with my Californian bulbs, and have flowered every one. I planted them the first of November in rather sandy soil. The bed is well drained and in quite a sheltered spot. It gets the full sun until about three o'clock in the afternoon. Before the ground freezes hard, I give it 3 or 4 inches of dried leaves. These are removed in the spring when all danger of heavy frost is over.

"I have found it a good plan to have a few leaves around the shoots for awhile and to keep some extra leaves at hand at night when the frost threatens. In this way, I have succeeded delightfully with the Venustrus varieties and the Globe Tulips. My bed of Erythroniums was a perfect success. The Globe

Tulips always give a good account of themselves."

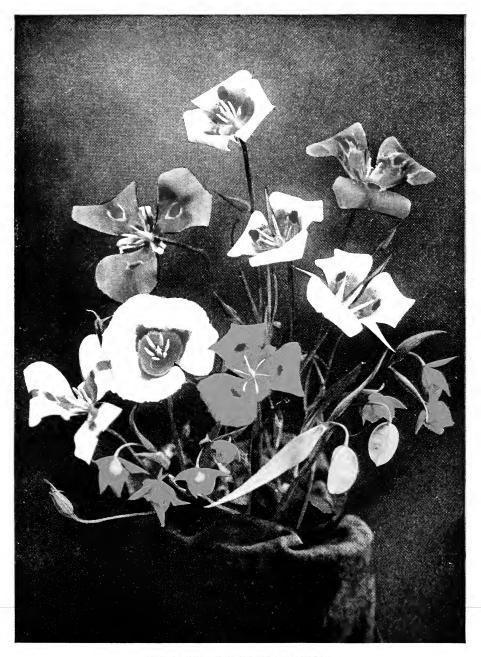
(2) In Cold Frames. With any ordinary care, all Calochortus can be grown splendidly in cold frames. They should be treated exactly as for open beds, except the soil will be better with some leaf mold. Do not coddle, but simply protect from freezing and thawing. After ripening, keep the sashes on all summer so that they will stay dry. I have glowing reports from customers who have grown them this way.

(3) In Pots. While they cannot be forced much, they can be grown in pots fairly well as follows: Use a sandy or loamy soil with good drainage. Plant 1½ to 2 inches apart, which will gve 6 to 12 to a 6-inch pot. Moisten the soil and put the pot in a dark place, a cellar preferred, for about six weeks, to let them root. Then bring into a warm, sunny place and water moderately. After flowering, let them ripen well and then dry off and leave perfectly dry until fall

Note: The First group, Globe Tulip, and the Second group, Star Tulips, are all perfectly hardy in the East and are well adapted to pockets in the rock garden where they would be assured of good drainage that most of them

require.

The Mariposa Tulips often give fine results in the open, while at other times they fail, very often this being due to poor drainage and wet conditions. The best species to use in the East are Venustus citrinus, Venustus oculatus, Vesta, Venustus robusta, Nitidus, Nuttallii, Gunnisonii, Eurocarpus, as these stand much more moisture and are practically immune to lily leaf rot which might affect the others.



MARIPOSA OR BUTTERFLY TULIPS

Lower left-hand flower with crimson blotch, the two purplish ones and the top flowers are all forms of El Dorado Strain. The golden one is Citrinus. Vesta is at left of Citrinus and Oculatus is at the right side. Drooping one at bottom is Amabilis, a Globe Tulip.

DOG'S-TOOTH VIOLETS

(Erythroniums)

The charm of these most beautiful woodland p'ants is well pictured in color plate. If they had no other beauty than that of their richly mottled leaves, they would be well worth a place in the shady corner. Their flowers are indeed very fne, and, in the Western species, often 3 inches across, wth stems at the most 18 inches high, although oftener from 3 to 6 inches. The colors run in delicate tints of white, pink, cream, bright yellow and even rose. They are hardy in the coldest parts of the United States, and while they are at their best in a loose, gritty soil, rich in leaf mold, they also thrive in the greatest variety of clays, grits, and rocky soils. In woodlands, in shaded corners, or in the crevices of rockwork in shade, is the place to naturalize them. They should carpet the ground.

Culture. I keep the bulbs in a cool place and in barely moist soil. When you receive them, plant at once in moist soil. When the bulbs are out of the ground, they soon suffer from overdrying. Any loamy or gritty soil will do and light shade is preferable. In planting, set the bulb upright, with 2 to 3 inches of soil covering the tip; 2 inches apart will give room enough.

Potting. One of the most experienced Chicago growers made a test of potting for me and writes: "We had the Erythroniums in flower the first of February without any forcing except a temperature of 45 to 50. Californicum and Hartweggii were the best." I would say that one could rely on these and all of the varieties of Californicum as well. Handle same as Hyacinths.

Dog's-Tooth Violets can be grown in pots or cold frames to good advantage. For potting, Hartweggii is best. Customers of mine in Michigan, Minnesota, Massachusetts, Ohio, or Delaware, as well as at Pacific Coast points, have had great pleasure from colonies of my Erythroniums planted in woods or other lightly shaded locations.

For naturalizing, the bulbs offered on page 17 are excellent. Seventy per cent of them will flower the first year.

Endless letters from pleased customers tell of success with Erythroniums from Montreal to Washington, D. C., and from Maine to Minnesota. That they are perfectly hardy, thrive with no special care, and stay for years is certain, and especially in all of the country north of California and east of the Rockies.

All of the Eastern species exhaust themselves by the production of endless offsets, which fairly fill the ground, while there are comparatively few flowering stems in a colony. The Western species, with one exception, have no offsets, but reproduce from seeds only, and a very large percentage of the bulbs flower the first and every year. Often there is a 100 per cent bloom. Even small bulbs flower.

Delivery September to December 1. All bulbs are packed against a journey of two months. Plant at once upon receipt in soil that is at least barely moist. If any delay, store in a cool place.

FIRST GROUP

Californicum has large cream-colored flowers. Leaves richly mottled. Easy to grow, and a large colony is a beautiful sight. Large bulbs, 5 cts. each; 50 cts. per doz.; \$3.50 per 100; smaller bulbs cheaper.

Californicum Bicolor, as its name signifies, has two vividly contrasting colors. The outer half of the petals is pure white, the inner bright chrome yellow, while the stamens are a rich gold. All Erythroniums have a faint fragrance, but "Bicolor" has a pronounced and delicious fragrance, enough so that from a few sprays the fragrance is noted across a room and from a bed in the open instantly catches one's attention. It is an exceptionally good grower. Altogether one of the very best of all. 7 cts. each; 70 cts. per doz.; \$5 per 100.

Californicum White Beauty. By contrast it appears to be white, although faintly tinged with cream. Often marked at base with maroon. Very fine. 7 cts. each; 70 cts. per doz.; \$5 per 100.

(DOG'S-TOOTH VIOLETS—Continued)

Citrinum is rather more erect in habit, with flowers almost pure white with strongly contrasting deep citron on lower third. One of the loveliest of all. 5 cts. each; 50 cts. per doz.

Grandiflorum robustum is a superb species with flowers of the brightest buttercup yellow. The leaves have no mottling—just plain green. It always attracts attention. 6 cts. each; 60 cts. per doz.; \$4 per 100.

Hartweggii is as pretty as *Californicum*, with more yellow in the flower, and each flower on a separate stalk. Very early and stands much heat. Good for pots. Large bulbs, 5 cts each; 50 cts. per doz.; \$3.50 per 100; smaller bulbs cheaper.

Hendersonii. Like *Californicum*, but the flowers are a lovely light purple, with centers a deep maroon, almost black. Most striking. 5 cts. each; 50 cts. per doz.; \$3.50 per 100.

Howellii is related to Citrinum, creamy with a yellow tint, but soon turns pinkish. 6 cts. each; 60 cts. per doz.; \$4.50 per 100.

Purdyi has flowers borne like *Hartweggii*, but cream colored, with a very delicate light lemon center. 10 cts. each; 75 cts. per doz.; \$5 per 100.

Tuolumnensis is quite new to both the garden and science. Large leaves, not mottled, and golden yellow flowers. The bulbs are very large and by offsetting form large clumps. Not too free flowering, but very distinct. 10 cts. each; \$1 per doz.; \$7.50 per 100.

REVOLUTUM, DOG'S-TOOTH VIOLETS

The stems are long, the flowers large and exqusitely tinted, often single, never more than four to the stem, and the leaves are mottled in white and green. While the plants thrive in garden loam, they do well in heavy soils which are quite wet in winter.

Revolutum. The type is a very fine species with large flowers which, on opening, are white, tinted lilac and may become purplish. The stems are very stout, sometimes 18 inches high, and one to four-flowered. It will thrive on soil wet in winter. 10 cts. each; \$1 per doz.; \$7.50 per 100.

Pink Beauty is a deep lavender pink and most beautiful. It has all the vigor of *Revolutum*. No Erythronium excels it. 12 cts. each; \$1 per doz.; \$7.50 per 100.

Rose Beauty is like *Pink Beauty*, but a deep rose pink. Very striking. Flowers at least three weeks earlier than *Pink Beauty*. Each 10 cts.; \$1 per doz.; \$7.50 per 100.

Johnsonii is perhaps the most lovely of all Erythroniums. With the stout habit of this group, it has exquisite rose-pink flowers. From the coastal region of Oregon. 10 cts. each; \$1 per doz.; \$7.50 per 100.

Purdy's White is a pure white, rather than a lavender white It is very richly marked at the base and has an unusually stout stem and large bold flower. An Eastern Erythronium lover writes that it was the most admired of all in her collection. 12 cts. each; \$1 per doz.

Praecox is an early blooming unusually fine variety. The leaves are mottled in browns, the flowers are large and of a very fine rich-cream color, richly banded maroon. One of the finest of all. 10 cts. each, \$1 per doz., \$7.50 per 100.

Watsonii is also known as Giganteum, but is hardly of this class. It has white flowers, beautifully zoned at base with brown. 6 cts. each, 60 cts. per doz., \$4.00 per 100.

Flowering Season of Erythroniums: All are among the earliest flowers. *Hartweggii* is notably early, the *Revolutum* group latest. The entire season is over a month, which is here from February to April 15. In the East I would say from April 1 on.



The deticate tints of Erythroniums make them one of the most charming plants in a garden. The narieties here iHustrated are: Giganleum, Grandiflorum robustum, Citrinum, Hendersonii, Revolutum Pink Beauty, Californicum White Beauty, Johnsonii

MIXTURES AND COLLECTIONS OF ERYTHRONIUMS

A Fine Mixture from those of the first group will be supplied at 40 cts. per doz., \$3 per 100, \$25 per 1000.

A Fine Mixture of the Revolutum group will be sent at \$1 per doz., \$7.50 per 100.

First Group, Splendid Collection of 20 bulbs each of five species (100 bulbs), named, for \$2.50, or a half collection (50 bulbs) for \$2.

Collection of Revolutum Varieties. 100 bulbs, 20 each, 5 sorts for \$7.50, half collection for \$4.

Collections and mixtures are made from excellent bulbs.

NAMED ERYTHRONIUMS FOR NATURALIZATION

We offer a smaller size of Erythroniums for naturalizing. Experience in our garden shows that up to 70 per cent will flower the first year. Unusual value.

100	1000	5000
Californicum. Cream\$1.50	\$10.00	\$37.50
Citrinum. Cream and lemon	15.00	62.50
Grandiflorum Robustum. Buttercup-yellow 3.00	20.00	80.00
Hendersonii. Lavender	15.00	62.50
Johnsonii. Rose-pink		

A little money spent on Wild Flower Seeds and a very little care will make beauty spots of your old corners. (See page 2.)

A GROUND COVERING FOR ERYTHRONIUM BEDS

Trientalis makes a most delightful covering for these beautiful bulbs. At the top of 4 to 6 in. stems is a circle of very pretty bright green leaves, and on naked stems rising 1 to 2 in. above the leaves are many delightful little soft pink flowers which come after the Erythroniums have flowered, and last several weeks. The fine green foliage persists throughout the summer and makes a fine ground covering after the Erythroniums have died down. Trientalis is hardy anywhere. Plant alternately with the Erythroniums and at same depth. May also be used with *Fritilarias* and any other little bulbous plants in shade. 40 cts. per doz.; \$1.25 for 50; \$2 per 100.

FRITILLARIAS

FRITILLARIAS are bulbous plants of the woodlands. The stems are leafy and most graceful, with pendent bell-like flowers. One species found in Southern California is called Mission Bells, while in other places local species are called Red Bells, Yellow Bells, or Brown or Chocolate Lilies, a name quite justifiable, as Fritillarias so closely approach true lilies in character that some species have been confused with them.

There are three groups of these fine plants on the Pacific Coast.

1st Group. These have slender stems with the leaves in circles very much like many lilies. Many flowers are bell-shaped and nodding, borne in graceful racemes. The bulbs are round, flat disks covered with rice-like grains. These grains are little offsets and will grow if planted. When a bulb is dug they usually fall off and replant the bed.

Recurva is often called Red Bell and Lanceolata is often called Mission Bells. The name Mission Bells, however, rightly belongs to biflora, a species related to Group 2.

These species are woodland plants, perfectly hardy and like a porous, well-drained soil fairly rich in leaf mold.

Fritillaria recurva.

The finest of the world's Fritil-

larias; orange and scarlet.

FRITILLARIA SPECIES

Lanceolata is from $1\frac{1}{2}$ to 3 feet high, with few to many flowers. They are green and brown, mottled prettily. Good bulbs, 10 cts.

Lanceolata gracilis has narrow, black-purple flowers, quite pretty. Same price as Lanceolata.

Parvif'ora is a little like Lanceolata with small pendent purplish bells. Foliage attractive. 10 cts. each; \$1 per doz.

Recurva much resembles a lily. In size and habit like Lanceolata with orange-scarlet flowers. Same price as Lanceolata.

•Culture 1st Group. Give this group a loamy or gritty soil with some leaf mold. Situation should be in sun with some afternoon shade, as on margin of woodland. Drainage must be perfect. Plant fall only.

2nd Group. In these there is a bulb composed of large separable scales more like lily bulbs. The stems are often less than 10 inches high with from 2 to 6 flowers, which are broad bells.

Agrestis is a low-growing species, with neat, greenish-yellow flowers.

Glauca is related to *Pluriflora*, grows to about 10 inches, with broad, greenish-yellow bells. Quite odd and new. 10 cts. each; \$1 per doz.

Pluriflora grows from 6 to 12 inches in height, leafy at base with large open bells of a reddish-purple. Handsome. 15 cts. each; \$1.50 per doz.

Culture This Group. Full sun. Soil, any loam, even a very heavy loam being preferred. Ample moisture while in growth.

3rd Group. There is but one species in this group, F. pudica. They like a sunny situation, perfect drainage and a light, loose soil, either sandy or gritty.

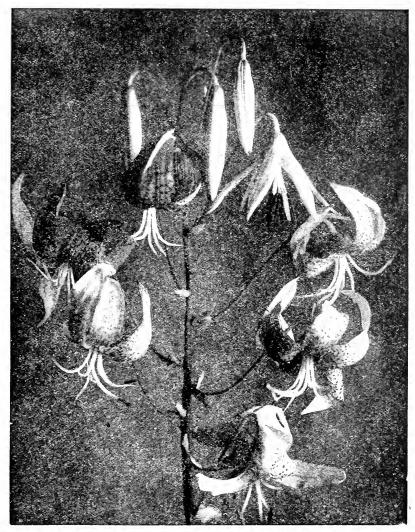
Pudica has rather large basal leaves and erct stems 4 to 10 inches high, with from 3 to 6 nodding bells 1¼ to 1½ inches long and pure gold in color. Absolutely hardy and a gem for the rock garden. 10 cts each; \$1 per doz.

Very Large Bulbs of any of These at Double Price

Fritillarias have an odd habit of having two entirely different sorts of leaves. If they do not flower they have a single, very large leaf; if they do, they do not have this leaf at all, but circles of leaves around the flowering stem. They are not steady bloomers, but are apt to rest the year after flowering. It is my endeavor to send only flowering bulbs, but there is no way in which I can be sure to do so.

Greencastle, Pa.: "Your catalog is so attractive and your plants so fine that I am inclined to get from you what I can get near at home."

Japan: "The consignment of Darlingtonias arrived in nice condition."



Lilium Humboldtii. One of the grandest of the world's Lilies. The type: orange spotted maroon. The easily grown variety Magnificum is the same, richly eyed with scarlet.

CALIFORNIA LILIES

In number and beauty of its Lilies, California ranks next to Japan.

LILIUM HUMBOLDTII AND ALLIED SPECIES

HUMBOLDTII. A grand Lily, growing as tall as 10 feet, but usually 4 to 5 feet high, with very stout stem and many large orange-red flowers, spotted with small maroon spots. This species does well in the adobe soils prevailing about San Francisco Bay. Immense bulbs 50 cts. each; 3 for \$1.25. Good, 40cts. each; 3 for \$1.00.

(LILIUM—Continued)

MAGNIFICUM. A good species, differing from preceding in having darker foliage, and in the spots on the flowers, each surrounded by a circle of crimson. Splendid growing and flowering qualities. It is sure to flower the first year after planting, and is a splendid grower. None better. First size, 50 cts. each; 3 for \$1.25. Fine bulbs, 40 cts. each; 3 for \$1.00.

BLOOMERIANUM. Like the preceding in color and flowering qualities, but with a very small bulb and small stem. Very pretty. 40 cts. each; 3 for \$1.00.

BOLANDERI. One of the rarest of Lilies; 1 to 3 feet high, slender, with bell-shaped, deep crimson-red flowers, dotted purple. 50 cts. each; \$5 per doz.

COLUMBIANUM. Like a miniature Humboldtii. Bright golden yellow, spotted maroon, $2\frac{1}{2}$ to 3 feet. Good, 30 cts. each; \$3 per doz. Very large, 40 cts. each; 3 for \$1.00.

LILIUM WASHINGTONIANUM AND NEAR SPECIES

WASHINGTONIANUM Purpureum. The fine halftone on page 20 shows the flowers to perfection as to form. They are from white to a rich wine-color, and change after opening; often 6 to 7 feet high, with a stout stem and many leaves, and as many as twenty-five very fragrant flowers. The bulbs are easily handled but will not give a good bloom the first year. Large bulbs, 8 to 9 inches in circumference, 50 cts. each; 3 for \$1.25. Good, 40 cts. each; 3 for \$1.00.

Three year, flowering garden grown bulbs. Solid and Fine 4-5 in. diameter,

30 cts. each; 3 for 80 cts.; \$3 per doz.

WASHINGTONIAN MINOR is the true Shasta Lily. With a small bulb and a slender stem 3 to 4 feet high, it has pure white flowers faintly flecked purple and most fragrant. A delightful Lily greatly admired by tourists who see it in its native haunt. Large bulbs, 50 cts. each; 3 for \$1.25. Good, 40 cts. each; 3 for \$1.00.

RUBESCENS (The Redwood or Chemise Lily). A beautiful and very distinct kind, having tall, slender stalks and exquisitely fragrant flowers of a tubular shape. In opening, they are white dotted purple, but soon change to deeper purple, and all colors between white and purple will be seen on one stem. To succeed with this, drainage must be perfect. 40 cts. each; 3 for \$1. Very large, 50 cts. each; 3 for \$1.25.

KELLOGGII. Three to four feet high with a slender stem and from three to fifteen flowers with pink, revolute petals. Very fragrant. Fine bulbs, each \$1.

Good bulbs at 75 cts. each; 3 for \$2.00.

CULTURE OF GROUP I.

The Lilies of the Humboldtii and the Washingtonianum groups are natives of cool slopes in mountainous regions, where they grow in forests, or where protected by a growth of shrubs. The soil is deep, perfectly drained, composed of clay or a rich loam, mixed with leaf soil and the debris from broken-down rocks.

In cultivating these Lilies, we should take lessons from Nature.

Situation of the Lily Bed. They should be planted where they are protected from cold winds and where the soil is not dried out by the direct heat of the sun. On large grounds the ideal location is a glade in the woods. The partial shade of deciduous trees, the shelter of rhododendrons or tamboos, or similar shrubs, or of tall-growing perennial plants, may give conditions quite suited to their culture. A protected nook on the shady side of the house is best on small grounds, and ferns are congenial neighbors.

Drainage. This must be perfect. If the ground is heavy and clammy, underdrainage should be given, and the soil made lighter and looser by the addition

of humus.

Soil. This should be a fairly good loam, mixed with humus and sand. New

manures are always to be avoided with Lilies.

Planting. They should be planted so that the top of the bulb is not less than 4 inches from the surface; about each bulb put a layer of an inch or so of sand which will carry away excessive moisture and prevent fungus attacks.

Watering. Lilies should not be kept water-soaked, but should have a moist surface during the growing season. Keep rather dry after they have flowered.

Never move a Lily bulb unless absolutely necessary.

My very best success with Lilies of this group has been in a very loose, gravelly soil, rich with leaf mold, and with water running above and percolating under the roots.

LARGE FLOWERED BOG LILIES

PARVIFLORUM (Pardalinum var. minor) is a very pretty, slender species growing to as much as 6 feet with many blossoms. The petals are revolute like *Pardalinum*, yellow, finely dotted maroon at center, crimson on upper half. Quite fragrant. This is the Tiger Lily of the Mt. Shasta region. Large bulbs, 50 cts. each; 3 for \$1.25.

PARRYII. Our front cover gives some idea of the beauty of this one of the world's finest Lilies. The slender leafy stem is from 3 to 5 ft. high with from a few to 25 very fine flowers of a lemon yellow, faintly dotted brown. It is very fragrant. I now have finest garden grown bulbs, better than which none have ever been sold. Very large bulbs, \$1.00 each. Splendid bulbs, 75 cts. each. Bulbs producing 3 to 8 flowers at 50 cts. each; 3 for \$1.25.

ROEZLII, CRIMSON. Stem slender, leaves crowded, very long and slender. Resembles *Pardalinum* on color plate on front cover. It should be well massed to get the best effect. Each 50 cts.; 3 for \$1.25.

ROEZLII, YELLOW. Similar in form and habit to the *Crimson form*, but the color is a clear reddish orange. A rare Lily; long lost, but reintroduced by me. Each 50 cts.; 3 for \$1.25.

PARDALINUM is one of the very best of all Lilies for both beauty and ease of culture. It is hardy anywhere and thrives under ordinary garden conditions either in the shade or in a cool moist situation in the sun. The rhizome branches and a number of flowering stems increases rapidly until a single rhizome forms a large clump. See beautiful picture in color on front cover. It grows from 5 to 7 ft. with very many flowers. The outer third of the petal is a deep orange scarlet while the inner two-thirds is bright orange, spotted and dotted thickly wih purplish maroon spots. Very large bulbs, 35 cts. each; 3 for \$1.00; \$3.50 per doz. Fine bulbs, 25 cts. each; 3 for 65 cts.; \$2.50 per doz.

PARDALINUM Giganteum. This is a variety which has recently been reintroduced and which has been highly recommended by some authorities. Although I myself first sent this Lily out years ago, I have had no recent personal experience with it. Described as tall growing, 6 to 8 ft., giant flowers, outer petals scarlet orange; inner half, bright yellow. Thickly dotted purple brown. Very large bulbs, \$1.00 each. Good bulbs, 50 cts.

SMALL-FLOWERED BOG LILIES

PARVUM. A charming little Lily which, under favorable treatment, grows 5 or 6 feet high, with many small, bell-shaped flowers. It is orange at the center, with crimson tips. From the sub-alpine regions about Lake Tahoe. 40 cts. each; \$4.00 per doz.

Parvum Luteum. A taller variety, with clear yellow flowers. 40 cts. each; 3 for \$1.

MARITIMUM, of the bogs of the coastal portion of Mendocino County, Calif., is related to *Parvum*, but with the deepest crimson-colored flowers only lightly dotted in the throat. The foliage, too, is deep green. A very rare Lily. For my first size bulbs, 50 cts. each; 3 for \$1.25. I have good bulbs at 40 cts. each; 3 for \$1.00.

OCCIDENTALE is about the rarest of all Lilies. I discovered it in Humboldt County, Cal., many years ago, yet for a long period have been unable to find more. I now have a fair supply. It is between Maritimum and Pardalinum. The foliage is a deep green and the flowers blood red with a few maroon dots at center. Best grown in fairly moist location. \$1.00 each.

CULTURE OF GROUP II.

The second group into which I would divide California Lilies as to culture comprises all of the so-called Bog Lilies. The Pardalinum and Parvum groups are so classed.

These Lilies grow naturally along the banks of small, living streams, on the borders of lakes and ponds, in deep, alpine meadows, on the borders of or on raised hummocks in bogs. Their bulbs are not so deep as the others, and they are more dependent upon surface moisture. The soil in such places as I have mentioned is always rich in rotten leaves, and usually sandy; sometimes it is peat or pure humus. Low shrubs or tall plants protect surface from heat.

(CULTURE—Continued)

Drainage. The fact that they like moisture does not mean that they like a water-soaked soil. Many failures with Bog Lilies are due to this error. If the roots can go down to moisture, all the better, but don't put the bulb in wet, gummy soil.

Soil. A light, sandy loam, mixed with leaf mold or peat, is the best possible.

Situation. My description of the natural habitat will suggest the best location where large and varied grounds give a choice. On the margin of a pond or brook, planted a foot or so above the water-level in moist, meadow-like expanses in sheltered places, or damp openings in woods are ideal locations. In small grounds, a hydrant can be so arranged as to give a constant drip; the fern corner is good, and the rhododendron bed is perfectly adapted.

OTHER SPECIES THAN WEST AMERICAN LILIES

I think that in the State of Washington the best conditions exist of all the world for growing Lily bulbs to perfection.

Foreseeing this, I made my arrangements to have stocks of a number of Lilies grown there for me. The crops of some of these now begin to be available and I can assure the buyer that the quality is superfine and that the bulbs are perfectly clean.

Each year I will be able to add other Washington-grown bulbs to this list.

OTHER SPECIES OF LILIES

Candidum is the St. Joseph's Lily or Madonna Lily, one of the most loved of all Lilies. It grows from 2 to 4 feet in height with from 3 to 20 pure-white flowers, which are very fragrant. The flower gradually spreads from the center, and is large and showy. Any good garden soil in sun. Large, superfine, clean bulbs at 35 cts. each; 3 for 95 cts.; \$3.50 per doz.

Dauricum is related to *L. elegans*. On a stem from 1 to 2 feet high are borne several very large open cups of orange red, spotted purplish black. A most brilliant subject, which catches the eye of all visitors. Of quite easy culture in a sunny position and with me it is fine both in a gritty but moist soil and in a good loam. 30 cts. each; 3 for 80 cts.; \$3.00 per doz.

Grayii is a graceful lily with the habit of growth of *L. Parvum*. Two to four feet high with broadly funnel formed flowers, orange yellow inside, tipped and tinged dull red and thickly spotted deep purplish-brown. 40 cts. each; 3 for \$1.

Henryii. Sometimes called *Yellow Speciosum*, is one of the hardiest and easiest of the Asiatic Lilies. Stem not too stout and needs support. 4 to 9 ft. high. Flowers bright orange. Very fine large bulbs at 50 cts. each; \$1.25 for 3. Good bulbs, 35 cts. each; 3 for \$1.00; \$3.50 per doz.

Philadelphicum is a most interesting American Lily with the same habit as Dauricum bearing large erect cups. Stems 1 to 3 ft. Cups 3 to 4 in. across, orange-red, tinged yellow in center and spotted deep purple. Give sandy soil and good drainage. Very fine large bulbs, 25 cts. each; \$2.00 per doz.

Regale is one of the finest Lilies for garden use the world affords. Large blooms from stems 1 to 3 feet high. Large trumpet-shaped flowers slightly shaded pink on white ground and with primrose-yellow showing through from the lower side. Very fragrant. In almost any good garden soil results can be had. Here afternoon shade is an advantage, also a light mulch to hold moisture even. Superfine quality at prices so low as to be undreamed of for this magnificent Lily. Mammoth bulbs which bore as many as 40 flowers this year, \$1.00 each. Immense bulbs that had 25 flowers this year, 60 cts. each; 3 for \$1.50; \$6.00 per doz. Heavy bulbs, 7 to 9 in., 35 cts. each; 3 for 90 cts. Fine flowering bulbs, 5 to 7 in., 25 cts. each; 3 for 65 cts; \$2.50 per doz.

(LILIES—Continued)

Superbum, the Turk's-Cap Lily of the Eastern United States, is rather like Pardalinum. A stout stem 4 to 6 feet high with many handsome leaves and few to many large bold upstanding flowers bright orange with red tips and greenish center. See Pardalinum for culture. Superfine bulbs at 30 cts. each; 3 for 80 cts. Good bulbs at 25 cts. each; 3 for 65 cts.

Tenuifolium, the Siberian Coral Lily, is slender, not over 18 inches high, and has bright scarlet flowers with revolute petals. A lovely little Lily, doing well in the moist rock garden or the border. Often one finds the statement that this Lily runs out and that small bulbs are preferable. I have had fine small bulbs and superfine bulbs side by side and the large bulbs gave a much superior bloom. Very fine large bulbs, 30 cts. each; 3 for 80 cts; \$3.00 per doz. Small flowering size, 20 cts. each; \$2.00 per doz.

Tigrinum is the true **Tiger Lily** and one long seen in American gardens. Most easily grown and most satisfactory, being even easier than *Regale*. Stem is very leafy and foliage dark. The flowers are bright orange, spotted purple. This Lily can be distinguished by the small black bulbils at the nodes of the leaves. Very fine bulbs, 25 cts. each; \$2.50 per doz.

TRILLIUMS

Trilliums are very attractive plants of the Lily family. The forms known as Wood Lilies or Wake-Robins are well known in the East and are fine woodland plants. Of these the best is grandiflorum, to be had from most Eastern dealers. In the forms of sessile, we have an altogether different tribe and a much better one from the standpoint of easy culture and ability to hold their own for years in the garden. There is a colony of Trilliums at Ukiah which, with no care, has increased in beauty for at least fifteen years, and I have seen many such.



Trillium sessile increases and becomes more valuable year by year.

The Indians found valuable foods in many of the bulbs in this list. Most valuable of all were the Camassias which were used by all tribes and grew in such numbers as to almost constitute their starchy food.

(TRILLIUMS—Continued)

SOILS PREFERRED AND CHARACTERISTICS

A better plant for the shaded corner, damp woodland, border of streams where the soil is moist, or for the shaded parts of the garden, does not grow. It takes a year for them to take hold, but they will then improve for years. There is no better bulbous plant to naturalize, and I have them in perfection in gravel, loam, sandy, and heavy clay, and in each case, with no care whatever, and with our dry California summer.

SESSILE Californicum. A strong plant a foot high, with the separate leaves $5\frac{1}{2}$ inches long, by $4\frac{1}{2}$ inches wide, and the petals $3\frac{1}{2}$ inches long. Flowers pure white. Very fragrant. Forms masses of many individuals. See beautiful cut on page 25.

Rubrum. Narrow petals; deep maroon-purple to reddish purple.

Snow Queen is a pure white form of Sessile, having broader petals and larger flowers. Easily the best of the Trilliums.

OVATUM. Nearly related to the Eastern grandiflorum but larger. Flowers open pure white, gradually tinge pink, and finally become deep wine-purple. Requires leaf mold and shade. For the redwood regions the best to naturalize. None of the Trilliums are finer than ovatum; the change in color is an added charm.

PRICES OF ABOVE SPECIES: Fine bulbs, 7 cts. each; 70 cts. per doz; \$5.50 per 100. Very large bulbs, 12 cts. each; \$1.25 per doz.; \$9.00 per 100.

RIVALE. A most dainty little sort from Southwestern Oregon and very rare. The delicate mauve flowers are borne on separate stems, and the plants at most are 6 inches high. 10 cts. each; \$1.00 per doz.

Purdy's Best. This is a new form of *Sessile* with very broad leaves and broad ovate petals. Color is creamy white with deeper cream at center. 10 cts. each; \$1.00 per doz.

HESPEROCALLIS undulata. The Desert Sand Lily. Has narrow leaves a foot or more and an erect stem with 4 to 18 fine white flowers. It grows rapidly when a rain comes to the desert and attracts much attention for its beauty. I can tell nothing about, nor can I guarantee results in cultivation, but I am so often asked for the bulbs that I am offering. Plant in fall, full sun, and sandy soil. It might do well potted. Each 50 cts.

WESTERN LADY'S-SLIPPERS (Cypripediums)

In the Far West we have three true Lady's-Slippers, and Calypso borealis and Epipactis gigantea so closely related that they are popularly taken for Lady's-Slippers.

Culture. The usual soil is a fairly well-drained woodland soil, either clayey, sandy, or gritty, with moderate admixture of leaf mold, always sheltered, shady and moist, for *Montanum* and *Fasciculatum*. For *Californicum* I have best results with a mixture of chopped sphagnum, peat and leaf mold with some grit. *Calypso* I have done well with for the first time with the bulb in two inches of pure peat, over gritty soil.

CALIFORNICUM is a true bog plant, found only in nature in wet bogs of the Northern mountains, or in the streams issuing from such bogs, and having a rather sandy peat soil. It makes strong clumps, with stout leafy stems 18 inches to $2\frac{1}{2}$ feet high, with rather small (proportionately) yellow flowers. Strong roots (divisions) 50 cts. each; \$5.00 per doz. Clumps, undivided, at 15 cts. the eye.

MONTANUM is a most lovely Orchid, found in the forest region from Sonoma County, Calif., northerly. It is not unlike the Eastern *pubescens* in habit. The large flowers have white sacs and brownish sepals. Very fragrant, with the odor or vanilla. Extra strong plants, 50 cts. each; \$4.00 per doz. Good plants, 40 cts. each; \$3.00 per doz.

FASCICULATUM is a low-growing sort, with much the same habits as the preceding, but the flowers are brownish. Quite interesting. This variety is offered at the same prices as *Montanum*.

CALYPSO BOREALIS is an exquisite little Orchid often taken for a Lady's-Slipper. It is almost always found either in mold and moss on rotted logs or in like soil on the ground in shaded woods. It does not root in the ground; the root is a little white bulb. It is not difficult to flower the first year. 20 cts. each; \$2.00 per doz.

EPIPACTIS GIGANTEA is a srong-growing Orchid which spreads by underground runners to form large, close masses. It loves a silty loam near water, and its many racemes of brownish Lady's-Slippers are quite ornamental. Culture is not at all difficult. 20 cts. each; \$2.00 per doz.

I have not heretofore listed Lady's-Slippers at retail, although I have for many years supplied them for export trade. No one can say that the culture of these Orchids is easy. I would not advise anyone who is not willing to take pains with them to buy.

I can and have naturalized *montanum* most successfully under conditions not at all exceptional. *Fasciculatum*, also *californicum*, is not easy with me. *Epipactis gigantea* is very easy, and *Calypso borealis* is easy the first year if planted in mold and moss in a very sheltered place.

EAST AMERICAN LADY'S-SLIPPERS

So many people wish to have these lovely flowers and do not know where to find them, that I will offer as follows:

CYPRIPEDIUM Pubescens grows to less than a foot in height with handsome foliage and large slippers of light yellow. A plant of greaty beauty which I have been able to make happy in a shaded situation with moist soil rich in humus.

Spectabile grows much taller and stronger than the last, with large pink flowers.

Acaule has opposite leaves with a single flower of great beauty. Must have a soil and situation like Pubescens, but the soil must be acid.

Of any of above, plant with one crown, 25 cts. each; \$2.50 per doz. Strong plants, 60 cts. each; \$6.00 per doz.

LARKSPURS or DELPHINIUMS

The Western species of these, with the exception of *scopulorum*, have dry ripened roots very much like *ranunculus* and can be handled as bulbs.

They make growth after planting in fall and winter, and after flowering ripen into a dry root which can be kept indefinitely. There are very many species of which I offer the following:

Californicum grows from 1 to 2 feet in height, with a single, erect and many flowered stem and many dark blue flowers. 20 cts. each; 3 for 40 cts.; \$1.25 per doz.

Cardinale is the *Giant Scarlet Larkspur* of Southern California. It often grows from 3 to 4 feet high, and it has been seen over 8 feet high. The scarlet-orange flowers are very showy. 25 cts. each; 3 for 65 cts.; \$2.50 per doz.

Nudicaule is like the preceding, but with much prettier foliage and only from 1 to 2 feet in height. A most delightful plant. Scarlet. 20 cts. each; \$2 per doz.

Columbianum. A lovely, low, compact species with flowers of deep blue. Usually quite fragrant. Each 20 cts; 3 for 40 cts; \$1.25 per doz.

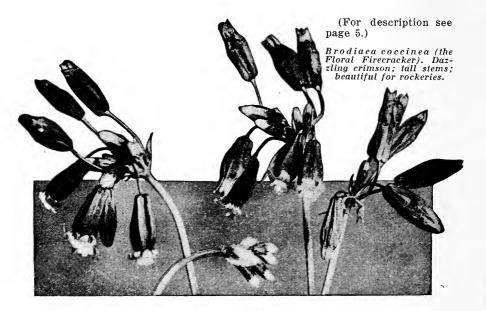
Lake County. Grows to 3 feet with erect stem and light-blue flowers; 20 cts. each; 3 for 40 cts; \$1.25 per doz.

Menziezii is a little gem, 6 inches high, with bushy habit and large, deep-blue flowers. 20 cts. each; 3 for 40 cts; \$1.25 per doz.

(LARKSPUR OR DELPHINIUMS—Continued)

Variegatum is low—say 8 to 15 inches—with very dark-blue flowers of great beauty. 20 cts. each; 3 for 40 cts; \$1.25 per doz.

Dry bulbs in fall—living plants in spring. If received dry, wet them and be convinced that they are full of life. An English firm sent back some bulbs of this nature and after the long trip they flowered here. Soil, any loam, a gritty soil best. Pl., preferably dry in early autumn. Depth, cover about 2 inches. Sit., light shade or sun.



DECIDUOUS LEWISIAS

Nevadensis is a little plant a few inches high, with a rosette of basal linear leaves and very many flowers on separate, almost naked stem a few inches high. The very pretty flowers are an inch or so across, white much tinted lavender. It grows in a loamy soil which is quite moist throughout the growing season and in full sun. After flower the foliage disappears and the little bulb-like root remains dormant until the fall rains start them again. 15 cts. each; 3 for 40 cts.; \$1.50 per doz.

Oppositifolia has leaves either linear or slightly broadened at tip and few in number. Scapes 6 to 12 in. arise erectly and bear beautiful white flowers over an inch across and tinted pink. A most beautiful little species. Habit and culture as for *Nevadensis*. 15 cts. each; 3 for 40 cts.; \$1.50 per doz.

Rediviva is Bitter Root. Many thick linear leaves an inch to two inches long crown the root and make a dense rosette. Through these leaves arise many stems bearing each a single flower. The flowers are white to pink and $1\frac{1}{2}$ inch across and have the satiny texture of a Cactus flower. Cult., a raised situation to insure perfect drainage. Soil composed of half grit and remainder equal parts of loam and humus or Holland peat. Sit., full sun, a pocket in a dry rock garden is admirable. Foliage disappears after flowering. 25 cts. each; 3 for 60 cts.; \$2.00 per doz.

Rediviva Deep Rose is a lovely, uniform, deeper shade of this beautiful species. Each 30 cts.; \$3 per doz.

Note: I can send this group either fall or spring but spring planted plants are apt to ripen without flowering.

EVERGREEN LEWISIAS

All of these are plants of much beauty and several are among the few very finest rock garden plants in America and at least two, L. Tweedyii and L. Finchii, are among the few finest in the world.

From a great many reports there is no doubt as to their perfect hardiness anywhere in the Eastern states, with slight winter protection. On the other hand, there is as little doubt that one must carefully comply with cultural requirements to secure success. They are amply worth any effort.

Culture. A leading amateur writing in the American Horticultural Magazine of Oct. 1931 says, "In any case shade is demanded and a sunny situation with shade in the afternoon is the very best." And I compile further: Drainage must be perfect and often a position in the rock garden or a raised bed will give this. Hear bear in mind that at no time must any excess moisture stand about the crown, and drainage and soil must be prepared thoroughly against any possibility of this.

Soil. Take a good garden loam and mix with chip stone and leaf mold to give a thoroughly permeable mixture. To this add a little well rotted manure and some sand and an addition of Holland peat has been found of value. In planting set the crowns high and fill about them with pure chip stone to the depth of one to two inches. For protection a covering of salt hay is best.

Here in California I find that they do best when planted under open-headed deciduous trees so that there is an alternation of shade and filtered sunlight.

Plant from fall to spring. With good care they may be planted in summer.

Columbianum has a rosette of short leaves and rosy flowers with dark lines down the midrib. 25 cts. each; 3 for 65 cts.

Columbianum Roseum is quite a different plant from *Columbianum*. The rosettes are made up of many very densely overlapping green leaves. The many flowered scapes branch and are 6 to 9 inches high, with deep rose colored flowers. It is by far the easiest to grow and may flower several times in a season. Large plants, 40 cts. each; 3 for \$1.00. Smaller but good, 25 cts. each; 3 for 65 cts.

Cotyledon, with long and more slender leaves and flowers similar to Columbianum. 25 cts. each; 3 for 65 cts.

Eastwoodiana. Foliage like Columbianum. Slender, many flowered scapes 6 to 9 inches with many small white flowers. New and rare. Each, 50 cts; 3 for \$1.25.

Finchii is next to Tweedii, the largest and finest of the group. The broad, bright green leaves are $1\frac{1}{2}$ inches wide by 3 inches or more long and make a close rosette flat on the ground. Four or five slender scapes, 8 to 12 inches high, each bear from 20 to 30 very handsome soft pink flowers margined with a broad white margin. A good plant in flower is a solid bouquet. A most lovely plant. 40 cts. each; 3 for \$1.00.

Ithaca, N. Y.: "My Erythroniums purchased from you two or more years ago are exceptionally beautiful right now. Pink Beauty is exceptionally large this year and your Erythronium grandiflorum came in very early and is beautiful."

A most interesting book on rock gardens is "Rock Garden and Alpine Plants," by Henri Correvon, the noted Swiss authority. Packed full of lists of rare plants with reliable notes on their culture. \$6, postpaid.

Stratford, Conn.: "Exhibited your Fairy Lanterns (Calochortus albus) at the garden club exhibit in June and they were the hit of the show."

"If your plants are anything like your catalog they must be well worth while. The catalog is the most explicit one that I have ever read."

(EVERGREEN LEWISIAS—Continued)

Hecknerii has the general habit of *Howellii*, but the dark green leaves are rather ovate and delicately margined with stiff hairs as are the bracts and sepals. Salmon rose. Each 50 cts.

Howellii, with beautifully crested leaves and similar flowers. 25 cts. each; $3 \ \text{for} \ 65 \ \text{cts}.$



Lewisia Howellii

Leeana, with slender, pine-like leaves and many smaller magenta flowers. It forms many-headed clusters. 25 cts. each; 3 for 65 cts.

Tweedyii. This is a plant of very high merit and when I first sent it to England about thirty years ago, the "Garden", England's highest garden authority, spoke of it as "the greatest acquisition in a lifetime". Almost as much might now be said with the addition that it ranks with the four best rock plants of the entire world.

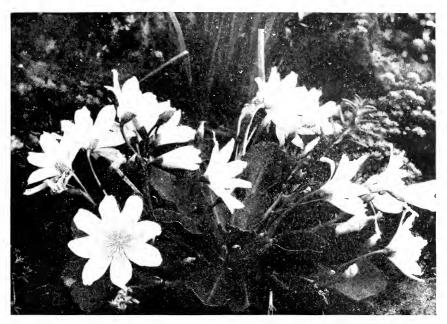
The picture tells what is better than words; if it is added that the flowers are a soft salmon pink and that the picture is not quite one-third actual size. In the old plants there are as many as four rosettes to make up one large one, and a wild plant was observed with 300 flowers open at one time. The leaves are 3 to 5 inches long and the flowers often 2 inches across.

In addition to the culture given for this group, I must add that Tweedyii has a very long deep root and must have a much deeper bed than the others. To make sure of drainage around the crown put at least an inch of chip stone or gravel about it.

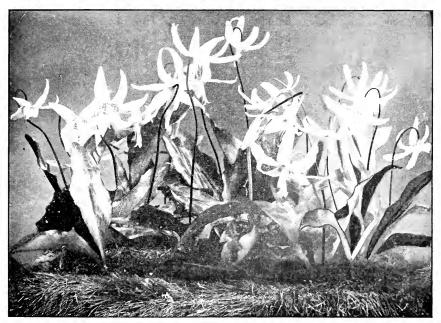
I have very fine plants of Lewisia Tweedyii and offer: Large plants, \$1.00 each; medium size plants, 75 cts.; small plants, 60 cts. each.

New Species: I have three other new ones, but haven't stock yet.

From Mt. Sterling, Kentucky: "I also wish to report that the Erythroniums came through the worst winter in years. Now are in full bloom and the pink shades are especially lovely."



Lewisia Twecdii



Dog's-Tooth Violets of the Revolutum type are strong-growing, with longer, stiffer stems than the other sorts. The type is white, with purplish lints often changing to purple. Pink Beauty is a soft lilac-pink and exquisite, while Johnsonii is the soft rose-colored form.

Very distinct from any other Erythroniums.



1. Laxa 2. Candida 3. Bridgessii

4. Capitata 5. Coccinea 6. Douglassi

BRODIAEAS

7. Volubilis (in bud) 8. Lactea 9. Exiodes splendens

10. Grandiflora 11. Californica